

No 20

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330 Market

An Inaugural Essay

on Paper March 5<sup>th</sup> 1828

Structures of the Uterus  
for

the degree of Doctor of Medicine

in

the University of Pennsylvania

by

Francis R. Gregory

Philad<sup>a</sup>. Aug<sup>t</sup>. 30. 1827. of Virginia

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## Strictures of the Urethra

This disease has been defined by Mr Samuel Cooper to be a preternatural diminution of the diameter of a part of the urethral canal, a contraction of the whole never taking place.

By Mr Hunter structures have been divided into permanent, permanent attended with spasm, and spasmodic. The permanent structure depends upon an organic alteration of the structure of the canal of the urethra. The spasmodic structure, if correct, is said to consist in a spasmodic contraction of the muscles around the canal; but by Mr Hunter, Sir Edward Dorn, Schaffer, Whately and others it is supposed to depend on the irritability of the urethra itself. Though anatomists have been unable to detect any distinct muscular fibres in the urethra of man, yet in some of the

Abstract of the Minutes

The following is a summary of the proceedings of the  
Board of Directors of the [illegible] Company, held on the  
[illegible] day of [illegible] 18[illegible]. The meeting was  
called to order by the President, [illegible], who read  
the minutes of the last meeting, which were approved.  
The following resolutions were adopted:  
1. That the sum of [illegible] dollars be appropriated  
for the purchase of [illegible] land, to be used for  
the purpose of [illegible].  
2. That the sum of [illegible] dollars be appropriated  
for the purchase of [illegible] land, to be used for  
the purpose of [illegible].  
3. That the sum of [illegible] dollars be appropriated  
for the purchase of [illegible] land, to be used for  
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for the purchase of [illegible] land, to be used for  
the purpose of [illegible].  
8. That the sum of [illegible] dollars be appropriated  
for the purchase of [illegible] land, to be used for  
the purpose of [illegible].  
9. That the sum of [illegible] dollars be appropriated  
for the purchase of [illegible] land, to be used for  
the purpose of [illegible].  
10. That the sum of [illegible] dollars be appropriated  
for the purchase of [illegible] land, to be used for  
the purpose of [illegible].  
The meeting adjourned until the next meeting, to be held  
on the [illegible] day of [illegible] 18[illegible].

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lower order of animals, as the horse they are apparent.

Although there is great authority on each side of the question, which as yet remains unsettled, yet I am disposed to believe that the canal itself possesses some degree of muscularity. This opinion is supported by the following facts. It is well known that after a bougie has been suffered to remain in the urethra for some time, it is withdrawn with much more difficulty, than if it were withdrawn instantly. And it will be evident that it cannot depend on the muscles of the perineum, as the canal contracts firmly around the bougie soon to its original orifice. There is not only more difficulty in withdrawing it, but also in reinserting it.

The first of these is the fact that the  
 human mind is not a blank slate at birth.  
 It is a tabula rasa, but it is not a blank  
 slate. It is a slate that has been written  
 upon by the experiences of the past.  
 The second fact is that the human mind  
 is not a passive receiver of information.  
 It is an active participant in the process  
 of knowledge. It does not merely receive  
 information from the outside world, but it  
 interprets it, and it does so in a way  
 that is influenced by the individual's  
 own experiences and beliefs. The third  
 fact is that the human mind is not a  
 uniform entity. It is a complex, multi-  
 faceted entity that is capable of a wide  
 range of thought and feeling. The fourth  
 fact is that the human mind is not a  
 static entity. It is a dynamic entity that  
 is constantly changing and evolving.  
 The fifth fact is that the human mind  
 is not a purely rational entity. It is an  
 emotional entity as well, and it is the  
 emotions that often drive the most  
 powerful of our actions. The sixth fact  
 is that the human mind is not a purely  
 individual entity. It is a social entity,  
 and it is the social environment that  
 shapes the mind in many ways. The  
 seventh fact is that the human mind  
 is not a purely human entity. It is a  
 natural entity, and it is the natural  
 world that provides the context for  
 all of our thoughts and feelings. The  
 eighth fact is that the human mind  
 is not a purely physical entity. It is a  
 spiritual entity as well, and it is the  
 spiritual world that provides the ultimate  
 meaning and purpose for all of our  
 actions.

Mr Bell has made an experiment, which he  
thinks is sufficient to prove that the urethra pos-  
sesses no muscularity. He introduced an ivory  
ball into the urethra of a patient who was unable  
to pull or retain it. This experiment I think  
would rather tend to prove that the urethra  
possessed muscularity, than that it did not;  
for if it possessed no muscularity and the  
muscles of the perineum were excited, they  
would contract and pull the ball. But the  
urethra itself contracting both before and  
behind the ball, it would necessarily remain  
stationary. Mr Bell also says there was no  
difficulty in withdrawing the ball; I have  
now performed the experiment with an ivory  
ball, but I am confident that everyone will  
admit, that there is always more or less difficulty  
in withdrawing a bougie, if allowed to remain  
in the urethra for any time. If Mr Bell





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had performed the experiment with any subst-  
-ance of a conical shape, when the muscles  
by contracting would act on it on every side  
so as to cause its expulsion, I think, he would  
have been convinced of this fact.

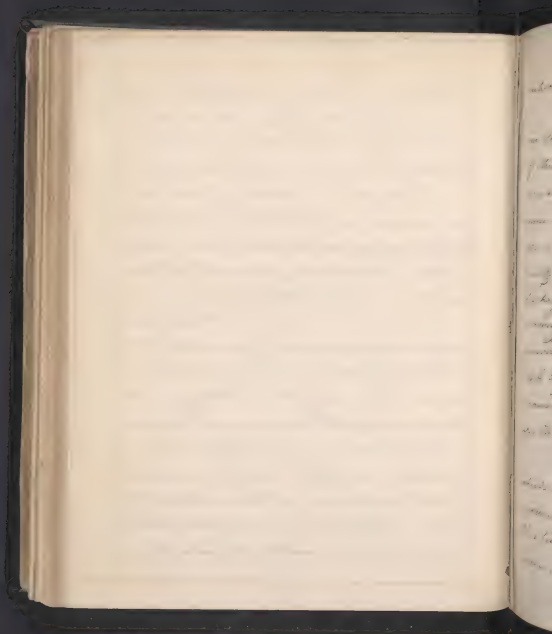
Wishing to  
satisfy myself as regards this experiment, I  
prepared a thread through a piece of hard  
wood about the size of the canal of the  
urethra, this was made into a round  
ball, and introduced as far up the urethra  
as I thought was necessary. The patient  
was unable to expell it, but contrary to the  
experiment of Mr Bell I found some diffi-  
-culty in withdrawing it, and was very  
much afraid that the thread which was  
attached to the wax would not be sufficiently  
strong for this purpose. After this I  
sutures another piece of the hardest wax, I



could procure, and having made it into a con-  
vex shape introduced it, at first about  
4 inches. I found that there was considerable  
difficulty in pushing it forward, and as  
soon as the force was taken off, the wax  
was gradually rejected. I then shortened  
the piece of wax and carried it down into the  
catheter about two inches, with the same re-  
sult as in the second case.

These experiments  
I think are sufficient to prove that the  
urethra possesses contractility. But as  
the wax seems to mould, and is not of a  
treatment so little, I shall not repeat it.

Causes. The causes of stricture are such  
as produce irritation or inflammation  
in the canal of the urethra. The  
inflammation sometimes extends to the  
prostate, and is the effusion of lymph



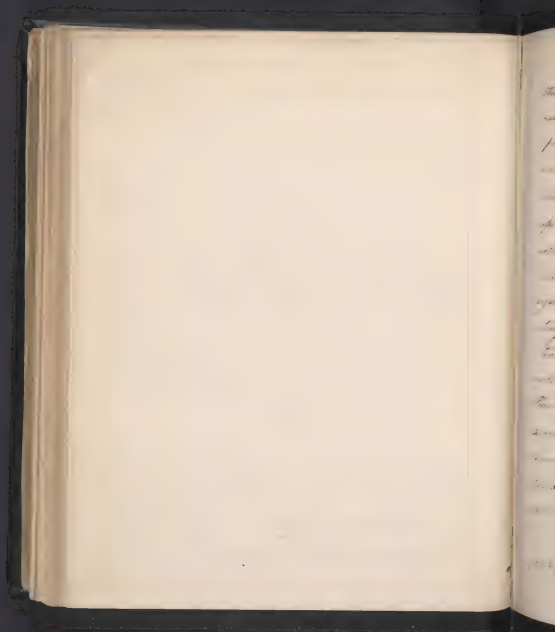
which constitutes stricture

Gonorrhoea is

no doubt one of the most common causes  
of this disease. But many of the cases are  
supposed by the physicians to be nothing  
more than a local inflammation, even  
in the stricture. The most likely  
evidence of the appearance of the  
discharge, proceeding from stricture, what  
closely resembles that of gonorrhoea, is a brownish  
or watery fluid, and it cannot be distinguished  
from gonorrhoea, the stimulating expec-  
tations used in the cure of that disease  
in the most common cases.

In one case,

which I saw, three strictures were  
induced by the injection of Nitrate of Silver.  
The patient wishing to cure his disease  
without any trouble, having



The length of the inflexion being large  
resorted to this injection; after using it, he com-  
plained of a burning sensation in the  
urethra and in the perineum. supposing  
that the last time he injected the dose  
of 100 grains, he wrote it up as a 2<sup>d</sup> time  
injection of 100 grains. This was not  
the case. He had a very long  
injection with a very long, thin, but strong  
long to introduce it to the urethra. The next  
time he was unable to inject it as per-  
fectly. He was told as he had, however, before  
thinking that there might be a fracture  
a 100 grains was introduced. It was  
found that there were three  
in about 2 inches from the apex. One about  
1/2 inch, one about 1/4 inch.

C. 100 grains. The  
injection of a calculus along the urethra





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Symptoms. The symptoms of this disease  
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system, mind often very much affected  
sometimes even while followed by fever  
not produce success.

In some more cases  
where there is not much local irritability  
few of these general symptoms are  
present, but in some cases the irrita-  
bility of the general system is so great  
as to destroy the patient.

Patient, who has  
syphilis is said to be very little lost.  
This may be the case in a great number  
of instances, but on the few which I  
have seen, though the patients were  
no precaution is given against it,  
they have never suffered the least from it.

The local symptoms are a discharge  
of purulent matter from the urethra, which  
in some cases seems to take place, without



cally, very much more profuse at some  
times than at others, a frequent desire to  
void water, and sometimes an inces-  
sant discharge of it. The urine passes  
off in a form according to the nature  
and number of the strictures, either  
in drops, or in thick, viscid, turbid stream  
and in one instance, when it is voided  
it is put out in three or four different  
streams, resembling water issuing from  
a watering pot. The stream is generally  
smaller during erection. Nocturnal  
emissions are very frequent, and in some  
cases as painful as the urina, as in the  
most violent watery state of gonorrhea  
and most painful immediately after  
withdrawing the tongue. There is also  
great uneasiness about the anus and  
perineum, and especially if the prostate.

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be ascertained, owing to the irritation produced  
by the hardened feces. The patient in  
bad cases is unable to close his eyes, and gene-  
rally feels a tickling pain in the perineum  
-um, resembling the breaking of, ferns;  
sometimes this is felt in the urethra also.

It is surprising what an effect an  
indulgence in eating or drinking, will  
have on this disease. If the patient  
indulges himself even in fermented liquors,  
he will suffer severely for his imprudence.  
I have seen a temporary suppression of  
urine, produced by using cups of ale.

If the patient indulge himself in water,  
even the contraction of the canal, during  
this act it is impossible to expel the semen,  
which, on this account, regurgitates into  
the bladder and remains there until  
the urethra is relaxed, and the patient, hopes





the disease. This disease appears the disease  
from the great loss of the power of  
relaxing itself after the contraction.

I repeat. The diagnosis of this disease  
is very difficult. The affection with which  
I shall be to be confounded is, gonorrhea,  
which is the disease, resulting from the venereal.

Though many symptoms are present  
I think now ought to be dependent on; and  
that we should rely, only on an examination,  
which is a very minute and production of a  
little pain. That is our duty, not to it. This  
may be done by a common white wash, being in  
the water, some of Mr. C. Bell, which is a white  
bitter, for this purpose, as it promotes the  
regularity of the menses, and  
many stricture may be found out at once  
in the three



1849. The surgeon's soldier refers to a  
patient with stricture, till the disease  
is far advanced, and the stream of urine  
is either very small, or completely stopped.  
Under such circumstances we must expect  
a very protracted cure, as by this time the  
patient's constitution is very much injured,  
and the vitality of the system is lost.  
By Mr Hunter we are told, that when the  
smallest tongue can pass, it can only be  
operative.

If the disease is returned to early  
we can always by simple means effect a  
cure; but unfortunately this is not the case,  
as most patients think, as before  
stated, that they have nothing more  
than a slight or chronic gonorrhoea, and  
either if their own doctor employs such  
remedies as they think are adapted to the



some of them, & apply to me as a general  
advice, respecting that which may be  
a guide. I think it is worth to be taken in  
in all cases which respect the care of the  
old & young & children for some time before  
or so much.

Typical. In a cross-section after death the structure is generally found about, or upon the back of the vertebrae, which is about 1/2 inch from the surface, and 4 or 5 inches or 3/4 of an inch from the surface. The portion of the canal between the struts is called the bladder. It is very much enlarged and inflamed. The amount of inflammation is disproportionate to the structure, and sometimes has the seminal ducts, and numerous follicles. The prostatic gland is sometimes enlarged and inflamed, to ulcerate. Sometimes softness is found growing from the mucous coat.



of the urethra.

The bladder is found contracted, and its neck thickened, and dark spots with small ragged holes in the middle of them on the fundus. The urethra is contracted at the place where the stricture is; sometimes it resembles a thread, or a cord, sometimes this appears only on one side. In some cases the urethra is regularly contracted, or thickened in several places; and four or five strictures met.

Treatment. Having ascertained the nature, number and situation of the strictures, the means pointed out in the diagnosis, are much not proved to the cure of the disease.

There are three ways which have been recommended for the cure of stricture. By a large caustic, and still by a









them as little pain & irritation as possible  
if support cannot be obtained by being  
made to enter the urethra, Pessers & con-  
strictors they will be supported by friction  
even after using them for some time  
they seem from their softness, to have little  
effect on the stricture, and it became neces-  
sary to use those of a firmer consistency for  
this purpose. The whole tube or gum  
elastic should be used, the former is the  
best where the stricture is very callous.

As to the flexible metallic bougie, I think,  
it should never be used to the exclusion  
of the others: as it yields too little to any  
irregularity in the urethra, and produces  
too great irritation in its introduction.

The smallest size bougie, it appears  
to me, ought never to be used. For where  
the canal is so small as to prevent the intro-



operation of a common eye syringe, this means should be resorted to, as these are sometimes an efficient the cause of a false passage than the stricture itself.

It being never so more dangerous in the hands of a patient or surgeon who was acquainted with the nature of the instrument, and accustomed to the introduction of a syringe. than a small sharp pointed syringe. Patients who are suffering with the syringe themselves (which they can often do better than the surgeon himself) are generally under the impression that the smaller the syringe, the more easily it can be introduced, and by their many ineffectual attempts, they cause great irritation and thus aggravate the disease. It will be found in nine out of ten cases, that a large syringe



can be made to pass the stricture with much more ease, than one of the smallest size. The difficulty of passing a small bougie along the urethra is owing to its entering the lacunae which exist in every part of it.

Bougies ought always to be introduced while the patient is intubated; even the patient confined there all the time it is in the urethra. This, I think, is of great importance, and should always be insisted on; as patients who experience little pain from the stricture and no inconvenience from the bougie are not willing to be confined to their beds and frequently withdraw the bougie too soon or use it with it in the urethra thereby creating great pain and irritation.

Bougies should be well oiled before their introduction; but care should be





Take care not to suffer too much of the oil to  
remain on them, which is apt to be the  
case in cold weather, when it is thick  
and tenacious. Unless too precaution be  
taken, the oil may remain or collect in  
the urethra. and I form an abscess, which  
happened in a case of D.T.H. arrived.

Mr Hunter tells us that when  
there is any difficulty in introducing  
the bougie on the first instance, to push  
it down to the stricture, and suffer it  
to remain a short time, and by doing  
thus two or three times, we may succeed  
in passing the stricture. He also in  
some instances succeeds, by rubbing the  
perineum; this he supposes acts symp-  
tomatically, taking off the spasm upon  
the stricture.

The size of the bougie



should be gradually increased until  
one of the natural size of the wultra  
can be passed with ease. This increase in  
some instances, must be very gradual, in  
others one of the size of the wultra may  
be passed in a few days. O

The bougie should not  
remain in the wultra long. Ten or  
thirteen minutes, if it cause much pain or  
irritation. But this irritation, which is  
at first sometimes very great, gradually  
ceases, and then the bougie should remain  
in for two or three hours.

Both the lunar  
and arguable caustic have been very  
much praised by some and condemned  
by others. Upon the whole, I think, the  
caustic a dangerous remedy, and would  
never resort to it, when other means



are in my power.

The mode of applying the caustic is, first to introduce a common wax bougie, and carry it down to the stricture; another bougie is then taken in the end of which a piece of caustic is introduced, the is carried down, as far as the first bougie, and kept in contact with the stricture, for one or two minutes, or a shorter time if it produce much irritation. This operation may be repeated in one or two days, but not until the effects of the first application have subsided.

When in using the acid, juncum, course, end of the bougie with a little care to prevent the caustic from acting on any part while it comes in contact with the stricture. As directed in virtue of Dr. Physick, it



of force to me, can always supersede the  
use of the caustic. But is certainly much  
more within our control, for where a  
caustic is applied to any part, where its  
effects are not needed; is it not probable  
that it may act on parts which were not  
intend it to touch, & in which it is almost  
impossible for us to arrive. Certainly Dr P's  
instrument in the hands of a surgeon  
acquainted with the nature & direction  
of the stricture, which he wishes  
to divide, & the nature of the parts, is  
as safe an instrument as the forceps in  
the hands of a couchman. This instru-  
ment has been condemned by some,  
but of one can be judge of a true & ab-  
solute, it must certainly be admitted, that  
this is one of the greatest improvements  
in the management of strictures, & of

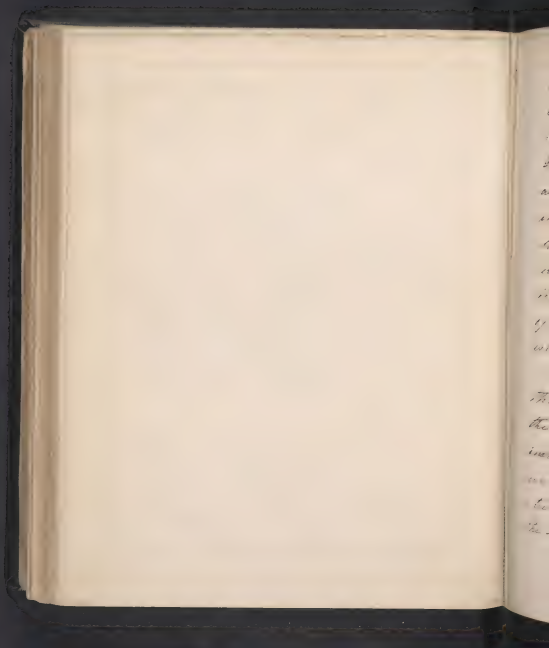




the operations performed by Dr. Huggins  
and Gibson, I have not heard of a single  
failure, and not even a late complaint  
resulting.

By St. Louis, Kansas, Bell and  
Whaley it is written that many bad can-  
cers, sometimes result from the  
application of caustic, and the many  
restrictions laid down by Whaley who  
has written a work on the employ-  
ment of caustic for stricture, and on  
which he principally relies, would an-  
nihilate out of ten cases, five or six, for its use  
alone. Thus

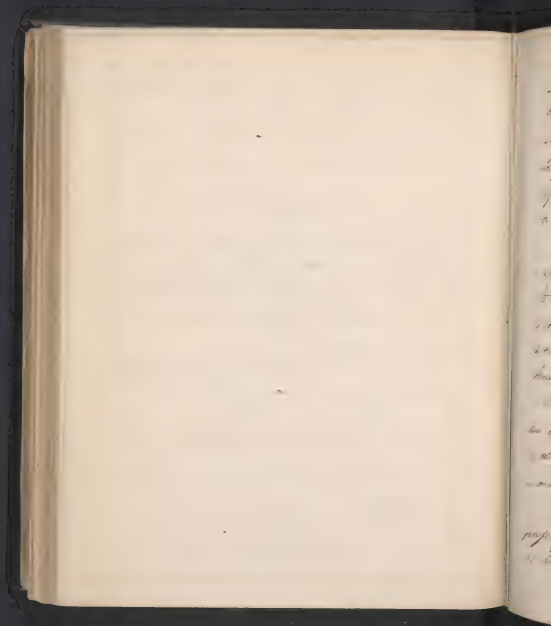
If we cannot stop a boy's  
nose this has failed to effect a cure, and  
caustic is prohibitive, what are we to resort to?  
I think it will be at once admitted that  
the only plan to be pursued under such



circumstances, is to divide the structure  
with the stilet. This instrument con-  
sists of a lancet concealed in a canula.  
It is carried down to the structure, and  
as soon as the end of the canula comes  
in contact with the structure, the  
lancet is carried forward and it is dis-  
cided. There is little difficulty in dividing  
the structure if it be united to the rest  
of the urethra, but if at the bulb it  
is not so easily done.

But even admitting  
that a small wound be made in  
the urethra, it would heal in most  
instances, by the first intention. This  
we know would not be the case if there  
were a gland to any other part of the  
urethra.

After cutting through the



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stricture, a flexible gum catheter should  
be introduced, and suffered to remain  
in the bladder for four or five weeks, and  
to prevent the stricture from closing  
after taking out the catheter, introduce  
a wax bougie.

The best method says Dr. Fer-  
ri of treating spasmodic stricture, is  
to apply caustic, and during the spas-  
modic purge, use opium, warm bath and  
sometimes emetics, a bougie of tobacco  
has been used to relieve spasm.

Another dilator on account of its being  
so complicated and possessing no  
advantage over the bougie is seldom  
resorted to.

If an unnatural  
passage be formed, either by the caustic  
or bougie, and the stricture remains



perious we ought to use a larger brazier than the one by which the immaturity of the root was produced, and particular care must be taken to bend the brazier in an opposite direction to the passage it must also be introduced very gently and gradually.

For little attention, I think, is generally paid to the regimen & diet of the patients who will, unless particularly cautioned against it indulge in every luxury his appetite or inclination may indicate. As long as the patient is permitted to go on in this way the stricture will continue inveterate and more difficult to cure.

The diet of a patient with stricture should consist of the lightest articles of diet. No spirit of any kind should be allowed not even port or sherry.

Since writing this essay I have seen a very ingenious instrument for dividing strictures

inspired by my friend Mr. Chas